REMARKS

Claims 22-33 and 41-52 are now presented for examination. Claims 22, 28, 29, 30, 41, 47, 48 and 52 have been amended to define still more clearly what Applicant regards as his invention, in terms which distinguish over the art of record. Claims 22, 28, 41 and 47 are the only independent claims.

Claims 22-33 and 41-52 have been rejected under 35 U.S.C. § 103(a) as unpatentable over Applicant's Admitted Prior Art (AAPR) in view of previously cited U.S. Patent 5,006,760 (Drake Jr.). Claim 27 has been further rejected under 35 U.S.C. §103(a) as unpatentable over AAPR and Drake, Jr. as applied to Claims 22-26 and further in view of U.S. Patent 4,856,904 (Akagawa). With regard to the claims as currently amended, these rejections are respectfully traversed.

Independent Claim 22 as currently amended is directed to a pod attachable to a grounded electromagnetic-shielded chamber. The chamber has a door and a flange portion around the door on the outside surface and contains a micro-device manufacturing apparatus. In the pod, walls configured to contain the substrate have an opening. A lid is configured to openably close the opening and the substrate is transferred between the pod and the chamber through the opening. The walls have an electromagnetic shield member which includes a flange portion configured to contact the grounded flange portion of the chamber without an intervening elements therebetween while the pod is attached to the outside surface.

Applicant's admitted prior art (AAPR) discloses a pod attachable to the outside wall of an electromagnetic shielded chamber with walls and importing a substrate to a device manufacturing apparatus in the electromagnetic shielded member from the pod.

In Applicant's view, Drake, Jr. discloses a capacitive feed arrangement for a parallel plate plasma reactor. One plate of the capacitor has a lower electrode or a contact to the lower electrode and the other plate of the capacitor has an annular member insulated from the lower electrode or contact. In Drake, an upper electrode 11 and a lower electrode 13 are separated by a dielectric ring.12. The lower electrode 13 is insulated from the upper electrode 11 and insulated from ground. The lower electrode 13 serves as a stage that holds a wafer 14. A shield 27 that extends around the lower electrode 13 and is insulated from the lower electrode 13 by rods 28 shields the environment from the RF power applied to the parallel plate plasma reactor. The shield 27 connects to a ground 26 which is insulated from the upper electrode 11 by the dielectric ring 12. Conductive ring 17 that is connected to an RF power source is insulated from upper electrode 11 and lower electrode 13 so that conductive ring 17 and lower electrode 13 form a capacitor 35 and a high power electromagnetic field is provided between the lower electrode 13 and the upper electrode 11.

According to the invention of Claim 22 as currently amended, the walls of a pod attachable to the outside surface of a grounded electromagnetic-shielded chamber having a door and a flange portion around the door on the outside surface has an electromagnetic shield member that includes a flange portion configured to contact the grounded flange portion of the chamber without any intervening elements therebetween while the pod is attached to the outside

surface. The AAPR may teach a manufacturing apparatus in an electromagnetic shielded chamber to which a pod is attached. The AAPR disclosure, however, merely combines a mini-environment type pod such as a Standard Mechanical Interface pod (SMIFPOD) or Front Open Unified pod (FOUP) with a device manufacturing apparatus. In the AAPR arrangement, when a lid of the pod is opened together with a door of the device manufacturing apparatus, electromagnetic waves will leak from the device manufacturing apparatus through the pod.

Drake discloses a plasma reactor chamber with an upper electrode 11 and an attachable lower electrode 13 separated by a dielectric ring 12. RF power is capacitively applied to the lower electrode 13 from an outside source 20 through a conductive ring 17 which is insulated from both the upper electrode 11 and the lower electrode 13. An electromagnetic shield 27 surrounding the lower electrode 13 contacts a ground ring 26 that is attached to the dielectric ring 12 and an insulating sleeve 25. When the lower electrode 13 is attached, it only contacts the dielectric ring 12 and the electromagnetic shield 27 only contacts the ground ring 26. As a result, RF power may leak from the chamber 10 through the dielectric ring 12. In addition, RF power leakage occurs in the unspecified grounding path between the ground ring 26 and the case of matching network 20 and then through lead 23 to the upper electrode 11.

In contrast to the Drake arrangement in which RF power leakage occurs through at least dielectric ring 12 and the ground path between the ground ring 26 and the upper electrode 11 in the environment, it is a feature of Claim 22 that an electromagnetic shield member in the walls of an a pod attachable to a grounded electromagnetic-shielded chamber has a flange portion configured to contact the grounded flange portion of the chamber without any intervening

elements therebetween while the pod is attached to the outside surface of the chamber. Accordingly, it is not seen that Drake in any manner teaches or suggests the features of Claim 22 which provides direct contact between the flange of an electromagnetic shield member and the flange of a grounded electromagnetic-shielded chamber to prevent electromagnetic wave leakage. It is therefore believed that Claim 22 as currently amended is completely distinguished from Drake.

With regard to the cited combination of AAPR and Drake, the AAPR is devoid of any teaching or suggestion of an electromagnetic shield member in the walls of a pod. Drake is limited to disclosing a capacitive feed arrangement for a plasma reactor in which a dielectric ring is inserted between an upper electrode and a lower electrode of the plasma reactor chamber and a grounding path for the upper electrode that includes an unspecified path between a ground ring and a matching network casing and a lead from the casing to the upper electrode. Both the dielectric ring and the ground ring connection are sources of RF power leakage. Accordingly, it is not seen that the addition of Drake's plasma reactor feed arrangement that includes electromagnetic wave leakage paths to the AAPR which fails in any manner to teach or suggest electromagnetic shielding of a pod could possibly suggest the features of Claim 22 of the walls of a pod attachable to the outside surface of a grounded electromagnetic-shielded chamber having an electromagnetic shield member that includes a flange portion configured to contact the grounded flange portion of the chamber without any intervening elements therebetween while the pod is attached to the outside surface of the chamber. It is therefore believed that Claim 22 as

currently amended is completely distinguished from any combination of the AAPR and Drake and is allowable.

Independent Claim 28 as currently amended is directed to a micro-device manufacturing apparatus in which an electromagnetic-shielded chamber has a door and a flange portion around the door on an outside surface of the chamber. A transfer unit arranged in the chamber is configured to transfer a substrate between the chamber and a pod. The pod is attached to the outside surface and has an electromagnetic-shield member which includes a flange portion configured to contact the flange portion of the chamber. A processing unit arranged in the chamber is configured to process the substrate transferred into the chamber from the pod by the transfer unit. The flange portion of the chamber is grounded and configured to contact the flange portion of the pod without and intervening elements therebetween while the pod is attached to the outside surface.

It is a feature of Claim 28 that a flange portion on the outside surface of a door of an electromagnetic-shielded chamber is grounded and configured to contact the flange portion of an electromagnetic shield member of a pod without any intervening elements therebetween while the pod is attached to the outside surface of the chamber. As discussed with respect to Claim 22, electromagnetic waves will leak in the AAPR arrangement when the lid of the pod is opened together with a door of the device manufacturing apparatus to which the pod is attached. Drake only discloses a capacitive feed arrangement for a plasma reactor in which RF power can leak through a dielectric ring is inserted between an upper electrode and a lower electrode of the plasma reactor chamber and through a grounding path for the upper electrode which extends in

the environment outside the chamber. Accordingly, it is not seen that the addition of the AAPR which does not suggest any prevention of electromagnetic leakage to Drake's plasma reactor capacitive feed having a ground connection arrangement which has paths for electromagnetic leakage could possibly suggest the features of Claim 28 of a grounded electromagnetic-shielded chamber flange portion contacting the flange portion of an electromagnetic shield member of a pod without any intervening elements therebetween while the pod is attached to the outside surface of the chamber. It is therefore believed that Claim 28 as currently amended is completely distinguished from any combination of the AAPR and Drake and is allowable.

Independent Claim 41 as currently amended is directed to an improved pod attachable to the outside surface of a grounded electromagnetic-shielded chamber which has a door and a flange portion around the door on the outside surface and contains a micro-device-manufacturing apparatus. In the pod, walls are configured to contain a substrate and have an opening. The walls have a flange portion configured to contact the flange portion of the chamber. A lid is configured to openly close the opening. The substrate is transferred between the pod and the chamber through the opening. The improvement is an electromagnetic shield member arranged over the walls and on the flange portion of the walls. The electromagnetic shield member on the flange portion of the walls is configured to contact the grounded flange portion of the chamber while the pod is attached to the outside.

In accordance with the invention of Claim 41, an electromagnetic shield member arranged over the walls of a pod and on the flange portion of the walls is configured to contact the grounded flange portion of an electromagnetic-shielded chamber while the pod is attached to

the outside surface of the chamber. As discussed with respect to Claims 22 and 28, the AAPR arrangement is devoid of any electromagnetic shield member in a pod that contacts any grounded flange portion of a electromagnetic-shielded chamber.

Drake only teaches a plasma reactor chamber in which a lower electrode is separated from an upper electrode by a dielectric ring 12 and in which an electromagnetic shield 27 is connected to a ground ring 26 which is connected to the upper electrode 11 through a path in the environment outside the chamber. As a result, there are paths for RF power leakage in Drake and it is not seen that Drake's arrangement in any manner suggests contact between an electromagnetic shield member on the flange of a pod with the grounded flange portion of an electromagnetic-shielded chamber as in Claim 41. Accordingly, it is not seen that the addition of the AAPR which fails to suggest any electromagnetic shield member in a pod to Drake's electromagnetic shield contacting a ground ring insulated from the chamber could possibly suggest the feature of Claim 41 of an electromagnetic shield member on the flange portion of the walls of a pod being configured to contact the grounded flange portion of an electromagnetic-shielded chamber while the pod is attached to the outside surface of the chamber. It is therefore believed that new Claim 41 is completely distinguished from any combination of the AAPR and Drake, Jr. and is allowable.

Independent Claim 47 as currently amended is directed to an improved micro-device manufacturing apparatus in which a grounded electromagnetic-shielded chamber has a door and a flange portion around the door on the outside surface of the chamber. A transfer unit arranged in the chamber is configured to transfer a substrate between the chamber and a pod.

The pod is attached to the outside surface and has an electromagnetic shield member with a flange portion configured to contact the flange portion of the chamber. A processing unit arranged in the chamber is configured to process the substrate transferred into the chamber from the pod by the transfer unit. The flange portion of the chamber is grounded and configured to contact the flange portion of the electromagnetic shield member of the pod while the pod is attached to the outside surface.

It is a feature of Claim 47 that the flange portion of a door on the outside surface of an electromagnetic-shielded chamber is grounded and is configured to connect the flange portion of the electromagnetic shield member of a pod while the pod is attached to the outside surface of the chamber. As discussed with respect to Claims 22, 28 and 41, the AAPR fails to teach an electromagnetic shield member in a pod so that there is no suggestion in the AAPR of the grounded flange portion of an electromagnetic-shielded chamber contacting the flange portion of an electromagnetic shield member of a pod as in Claim 47.

Drake only teaches a plasma reactor chamber in which a lower electrode is separated from an upper electrode by a dielectric ring 12 and in which an electromagnetic shield 27 is connected to a ground ring 26 which is connected to the upper electrode 11 through a path in the environment outside the chamber. As a result, Drake's arrangement that separates a ground ring 26 from the upper electrode 11 of chamber 10 fails to teach or suggest the grounded flange portion of an electromagnetic-shielded chamber being configured to contact flange portion of the electromagnetic shield member of a pod while the pod is attached to the outside surface of the chamber. With regard to the cited combination, it is not seen that the addition of the AAPR's

pod without any electromagnetic shield member to Drake's electromagnetic shield 27 contacting a ground ring that is separated from and not in contact with the chamber (upper electrode 11) could possibly suggest the features of Claim 47. It is therefore believed that Claim 47 as currently amended is completely distinguished from any combination of the AAPR and Drake and is allowable.

For the foregoing reasons, Applicant submits that the present invention, as recited in independent Claims 22, 28, 41 and 47 is patentably defined over the cited art.

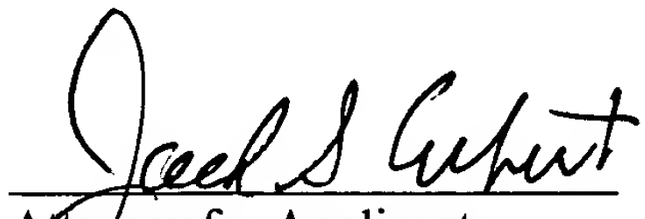
Dependent Claims 22-27, 29-33, 42-46 and 48-52 also should be deemed allowable, in their own right, for defining other patentable features of the present invention in addition to those recited in independent Claims 22, 28, 41 and 47. Further individual consideration of these dependent claims is requested.

Favorable consideration and reconsideration, withdrawal of the rejections set forth in the above-noted Office Action and an early Notice of Allowance are also requested.

Applicant also requests that the Examiner contact their undersigned representative should any matters be deemed outstanding precluding allowance of this application.

Applicant's attorney, Steven E. Warner, may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should be directed to our address listed below.

Respectfully submitted,



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